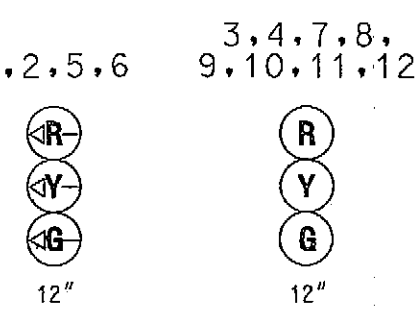
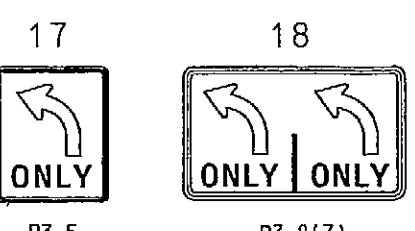


MD 146 is considered to run in a North/South direction.

EXISTING SIGNALS



EXISTING SIGNS



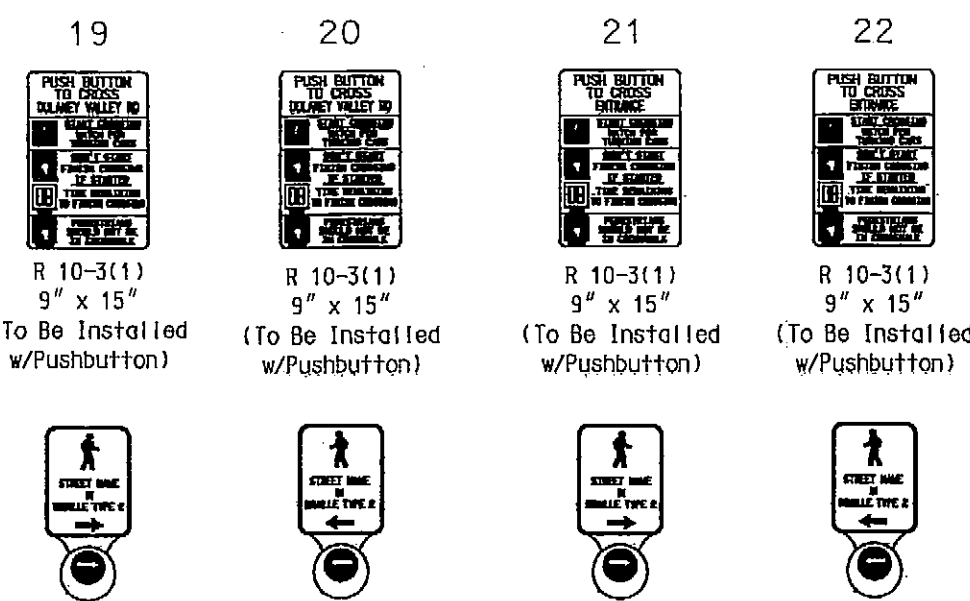
PROPOSED SIGNALS



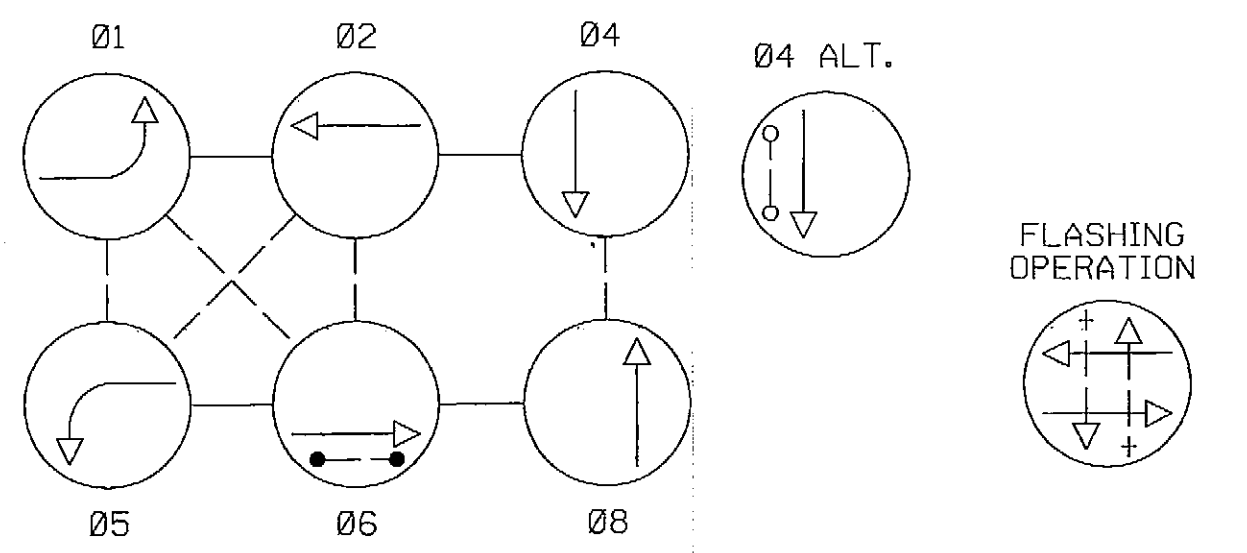
REMOVE AND REPLACE EXISTING SIGNALS



PROPOSED SIGNS

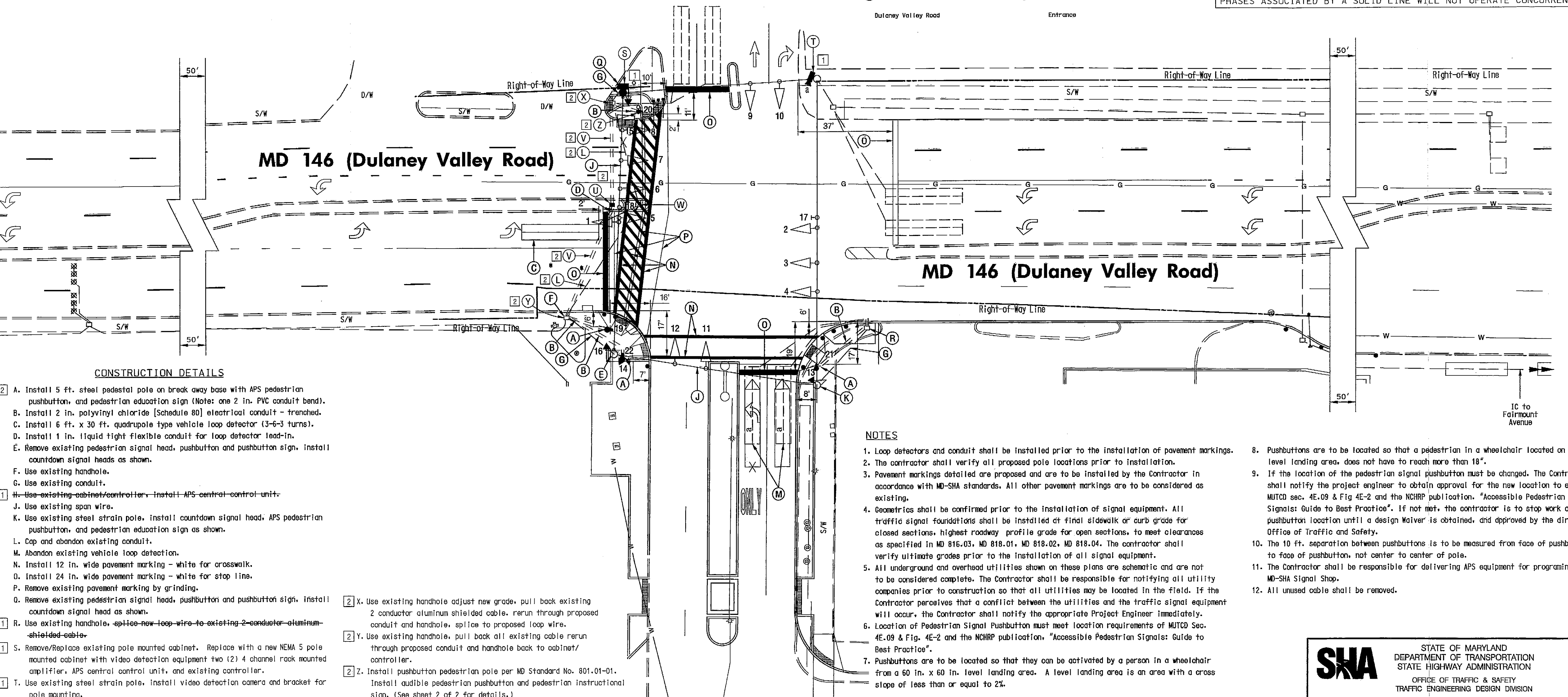


PROPOSED NEMA PHASING



NOTE: PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

Dulaney Plaza Shopping Center



CONSTRUCTION DETAILS

- 2 A. Install 5 ft. steel pedestal pole on break away base with APS pedestrian pushbutton, and pedestrian education sign (Note: one 2 in. PVC conduit bend).
- B. Install 2 in. polyvinyl chloride [Schedule 80] electrical conduit - trench.
- C. Install 6 ft. x 30 ft. quadrupole type vehicle loop detector (3-6-3 turns).
- D. Install 1 in. liquid tight flexible conduit for loop detector lead-in.
- E. Remove existing pedestrian signal head, pushbutton and pushbutton sign. Install countdown signal heads as shown.
- F. Use existing handhole.
- G. Use existing conduit.
- 1 H. Use existing cabinet/controller. Install APS central control unit.
- J. Use existing span wire.
- K. Use existing steel strain pole. Install countdown signal head, APS pedestrian pushbutton, and pedestrian education sign as shown.
- L. Cap and abandon existing conduit.
- M. Abandon existing vehicle loop detector.
- N. Install 12 in. wide pavement marking - white for crosswalk.
- O. Install 24 in. wide pavement marking - white for stop line.
- P. Remove existing pavement marking by grinding.
- Q. Remove existing pedestrian signal head, pushbutton and pushbutton sign. Install countdown signal head as shown.
- 1 R. Use existing handhole. splice new loop wire to existing 2 conductor aluminum shielded cable.
- 1 S. Remove/replace existing pole mounted cabinet. Replace with a new NEMA 5 pole mounted cabinet with video detection equipment two (2) 4 channel rack mounted amplifier, APS central control unit, and existing controller.
- 1 T. Use existing steel strain pole. Install video detection camera and bracket for pole mounting.
- 2 U. Install handhole.
- 2 V. Install 4 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted.
- 2 W. Remove existing handhole.

- 2 X. Use existing handhole adjust new grade, pull back existing 2 conductor aluminum shielded cable, rerun through proposed conduit and handhole, splice to proposed loop wire.
- 2 Y. Use existing handhole, pull back all existing cable rerun through proposed conduit and handhole back to cabinet/controller.
- 2 Z. Install pushbutton pedestrian pole per MD Standard No. 801.01-01. Install audible pedestrian pushbutton and pedestrian instructional sign. (See sheet 2 of 2 for details.)

NOTES

1. Loop detectors and conduit shall be installed prior to the installation of pavement markings.
2. The contractor shall verify all proposed pole locations prior to installation.
3. Pavement markings detailed are proposed and are to be installed by the Contractor in accordance with MD-SHA standards. All other pavement markings are to be considered as existing.
4. Geometrics shall be confirmed prior to the installation of signal equipment. All traffic signal foundations shall be installed at final sidewalk or curb grade for closed sections, highest roadway profile grade for open sections, to meet clearances as specified in MD 816.03, MD 818.01, MD 818.02, MD 818.04. The contractor shall verify ultimate grades prior to the installation of all signal equipment.
5. All underground and overhead utilities shown on these plans are schematic and are not to be considered complete. The Contractor shall be responsible for notifying all utility companies prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal equipment will occur, the Contractor shall notify the appropriate Project Engineer immediately.
6. Location of Pedestrian Signal Pushbutton must meet location requirements of MUTCD Sec. 4E.09 & Fig. 4E-2 and the NCHRP publication, "Accessible Pedestrian Signals: Guide to Best Practice".
7. Pushbuttons are to be located so that they can be activated by a person in a wheelchair from a 60 in. x 60 in. level landing area. A level landing area is an area with a cross slope of less than or equal to 2%.
8. Pushbuttons are to be located so that a pedestrian in a wheelchair located on the level landing area, does not have to reach more than 18".
9. If the location of the pedestrian signal pushbutton must be changed, The Contractor shall notify the project engineer to obtain approval for the new location to ensure MUTCD sec. 4E.09 & Fig 4E-2 and the NCHRP publication, "Accessible Pedestrian Signals: Guide to Best Practice". If not met, the contractor is to stop work on pushbutton location until a design waiver is obtained, and approved by the director, Office of Traffic and Safety.
10. The 10 ft. separation between pushbuttons is to be measured from face of pushbutton to face of pushbutton, not center to center of pole.
11. The Contractor shall be responsible for delivering APS equipment for programming to MD-SHA Signal Shop.
12. All unused cable shall be removed.

Towson Town Center North Entrance

Red-Line Revision 2

SHA MDOT-SHA O.O.T.S. S.H.A. Approval Date 1-14-09 T.S. - 4574A Log Mile-03014600.25 T.I.M.S. No. - 1533

These plans are approved for construction for a period 1 year from the date of approval. Should construction not begin within this time frame these plans shall be null and void without a review from the Traffic Engineering Design Division.

The Traffic Group, Inc. Suite H 9900 Franklin Square Drive Baltimore, Maryland 21236 410-931-6600 1-800-583-8411 Fax 410-931-6601

GEOMETRIC LEGEND	
---	EXISTING
---	PROPOSED
UTILITY LEGEND	
SD	STORM DRAIN
U	GAS MAIN
V	WATER MAIN
S	SEWER MAIN
E	ELECTRIC CABLES
A	AERIAL CABLES
T	TELEPHONE CABLES
F	FIBER-OPTIC

APPROVALS		REVISIONS		TRAFFIC SIGNAL PLAN	
TEAM LEADER		2	Redline Revision, Install APS and countdown pedestrian heads, handhole and conduit SHA No.: BW9906M2	SCALE 1" = 20'	DATE Feb. 23, 1972 CONTRACT NO.
ASST. DIR. CHIEF		1	Redline Revision, Install new cabinet and video detection camera SHA No.: BW9906M2	DESIGNED BY Balto. Co.	COUNTY Baltimore
DIVISION CHIEF				DRAWN BY Balto. Co.	LOGMILE 03014600.25
OFFICE DIRECTOR				CHECKED BY	TIMS NO. 1533
				FAP NO. N/A	TOD NO.
				TS NO. 4574A	DRAWING - OF SHEET NO. 3 OF 4

PLOTTED: Tuesday, January 13, 2009 AT 02:52 PM FILE: F:\0001\0001-0220\Use\Traffic Signal\Redline_PSS-MD146-Mall North Entr.dgn